

KEY

Smooth peas are dominant (S)
 Wrinkled peas are recessive (s)

Name: _____
 Per: _____
 Date: _____

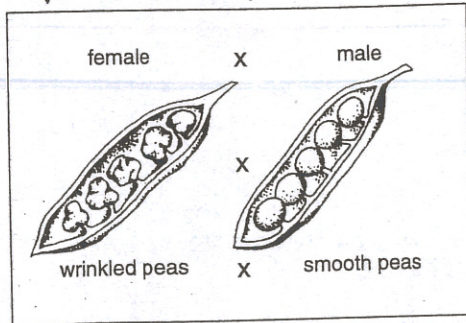


Figure C

Let's see what happens when a pure smooth pea plant is crossed with a pure wrinkled pea plant.

- The dominant smooth genes come from the male.
(male, female)
- The recessive wrinkled genes come from the female.
(male, female)

		male gametes	
		S	S
female gametes	s	Ss	Ss
	s	Ss	Ss

Figure D

- Now fill in the Punnett square for Figure D.
- What kind of covering will all the offspring peas have? smooth
smooth, wrinkled
- All the offspring are hybrids.
pure, hybrids

		male gametes	
		s	S
female gametes	S	Ss	Ss
	s	Ss	Ss

Figure E

- Would there be any difference if the dominant (S) genes were from the female and the recessive (s) genes were from the male? Test it in Figure E.

Answer: There would not be a difference.
would, would not

Now try a cross between two hybrids, Ss x Ss. Fill in Figure F.

		male gametes	
		S	s
female gametes	S	SS	Ss
	s	Ss	ss

Figure F

- How many offspring will be smooth?
75% (3/4)
- How many will be wrinkled? 25% (1/4)
- How many offspring will be pure smooth?
25% (1/4)
- How many will be hybrid smooth? 50% (2/4)

PREDICTING HUMAN TRAITS



Figure G

Gary and Tina are married. They are planning a family. What will their children look like? Try some more Punnett squares to find out.

Gary is hybrid for curly hair (Cc). Tina is pure for straight hair (cc).

C = dominant curly
c = recessive straight

Gary is hybrid for dark hair (Dd). Tina is pure for blonde hair (dd).

D = dominant dark
d = recessive blonde

Both Gary and Tina are hybrid for brown eyes (Bb).

B = dominant brown
b = recessive blue

Complete the Punnett square for each trait. Then answer the questions.

HAIR TYPE		Gary's gametes	
		C	c
Tina's gametes	c	Cc 25%	cc 25%
	c	Cc 25%	cc 25%

Figure H

HAIR COLOR		Gary's gametes	
		D	d
Tina's gametes	d	Dd	dd
	d	Dd	dd

Figure I

EYE COLOR		Gary's gametes	
		B	b
Tina's gametes	B	BB	Bb
	b	Bb	bb

Figure J

- How many offspring will have curly hair? 50% (2/4)
- How many offspring will have straight hair? 50% (2/4)
- How many offspring will be pure for curly hair? 0% (0/4)
- How many offspring will be pure for straight hair? 50% (2/4)